

95% CI -0.15 to -0.01, $I^2=0\%$) compared to placebo. However, 3 out of 5 exenatide trials were open label and studies used multiple doses and formations (short-release and extended release), which limited the interpretation of results in clinical practice.

Conclusion: Our meta-analysis supports the therapeutic benefits of GLP-1 agonists for patients with T1DM. Daily 1.8mg liraglutide injections for at least 12 weeks appear to be a promising adjunct to insulin therapy for T1DM patients, resulting in decreased A1c levels, body weight, and total daily insulin requirements.

Presentation: Sunday, June 12, 2022 12:30 p.m. - 2:30 p.m.

Abstract citation ID: bvac150.782

Diabetes & Glucose Metabolism

PSUN192

Therapeutic Benefit of GLP-1 Agonists in Patients with Type 1 Diabetes on Insulin Therapy: an Updated Systematic Review and Meta-analysis

Jeayoung Park, MD, Spyridon Ntelis, MD,

Katherine Downton, MSLIS, Cheuk Fung Yip, PhD,

Kashif Munir, MD, and Nowreen Haq, MD, MPH, FACP, FACE

Introduction: Glucagon-like Peptide 1 (GLP-1) agonists are efficacious glycemic control and weight loss agents for obese patients with or without type 2 diabetes mellitus. Use of GLP-1 agonists for patients with type 1 diabetes mellitus (T1DM), on the other hand, is an evolving area of research. Our present meta-analysis aims to critically evaluate existing evidence and provide an estimated average therapeutic effect.

Methods: PubMed, Embase, and Cochrane libraries were searched for randomized controlled trials comparing major efficacy and safety endpoints for 12 weeks or longer administration of GLP-1 agonists compared to placebo in T1DM patients on insulin. Main endpoints for analysis included glycated hemoglobin (A1c) level, body weight, and change in total insulin dose. Study was done in accordance with the Preferred Reporting Items for Systematic reviews and Meta-Analysis (PRISMA) statement.

Results: Of 3736 reports identified on search, 8 studies involving liraglutide 1.8mg daily (total 1415 patients) and 5 studies involving any dosage of exenatide (total 221 patients) were included. Liraglutide 1.8mg overall produced greater decrease in A1c (MD = -0.28%, 95% CI -0.41 to -0.16, $I^2=42\%$), body weight (MD = -4.84kg, 95% CI -5.25 to -4.44, $I^2=0\%$), and total daily insulin per kilogram body weight (MD = -0.08u/kg, 95% CI -0.10 to -0.06, $I^2=55\%$) compared to placebo. Exenatide regimen as a whole also overall produced decreased A1c (MD = -0.17%, 95% CI -0.38 to -0.00, $I^2=0\%$), body weight (MD = -4.05kg, 95% CI -14.3 to -3.45, $I^2=0\%$), total daily insulin (MD = -0.08u/kg,